

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Examiner McNally is kindly thanked for considering the documents cited in the First and Second Information Disclosure Statements filed in this application, and for returning initialed copies of Form PTO-1449 submitted with each Information Disclosure Statement. The returned copy of Form PTO-1449 submitted with the First Information Disclosure Statement includes a line through International Application Publication No. WO 01/85565. The Official Action does not say why, but it is assumed that the reason is because the same document was cited on Form PTO-892. Thus, even though the International Application Publication is lined through, it is understood that such document has nevertheless been considered. In the event this understanding is not correct, the Examiner is kindly asked to clarify this point in the next Official Communication.

The issues raised in paragraph "2" on page two of the Official Action have been addressed. Accordingly, withdrawal of the claim rejection based on the second paragraph of 35 USC § 112 is respectfully requested.

The subject matter of this application pertains to a method in connection with the continuous joining of a first layer of a first material and a second layer of a second material to produce a packaging laminate comprising the first and second layers. The method involves subjecting the free surface of the first layer and/or the free surface of the second layer to both plasma treatment and to flame treatment, and thereafter joining together the free surfaces of the first and second layers.

The Official Action sets forth a rejection of independent Claim 1 based on the disclosure in U.S. Patent No. 5,919,517 to Levendusky et al. This document

describes a method of coating both sides of an aluminum strip 10 with thermoplastic resin from extruders and extrusion dies which deposit the thermoplastic resin on opposite sides of the strip. This is illustrated in Fig. 1 and described in lines 7-12 of column 1. The patent describes that the aluminum strip 10 is heated by a heater 20 as the strip moves downwardly from a roll 16. The illustrated system in Levendusky et al. utilizes an induction heater 20 to heat the aluminum strip 10, though the patent mentions that other heaters or preconditioners such as flame treatment, infra-red, plasma and/or corona discharge may also be employed individually or in combination.

To better highlight differences between the method at issue here and the disclosure in Levendusky et al., independent Claim 1 is amended to recite that the treated surface is an aluminum foil surface, and to also recite that the first layer is joined, prior to treatment, with a bulk layer of paper or paperboard, on the side of the first layer opposite the free surface, with the bulk layer exhibiting through holes, openings or slits covered by a membrane comprising the first layer. In addition, Claim 1 is amended to recite that the plasma treatment is performed locally at regions of the through holes, openings or slits, with the plasma treatment being performed intermittently on a continuously running web comprising the first layer.

The present application describes, beginning at the bottom half of page seven, that the method here, involving locally plasma treating the free surface of the aluminum layer in a tailored manner (i.e., in the regions of the through holes openings or slits) improves the adhesion between the first and second layers in the regions of the through holes, openings or slits, while not providing the same degree of adhesion in other areas where the improved adhesion between the layers could be problematic. If the adhesion between the layers is excessively high, the

packaging laminate is particularly sensitive to strain cracking in so-called K-crease regions where the packaging laminate is folded two times in order to shape the packaging container. Thus, the method at issue here provides improved adhesion and openability in the hole regions, while not impairing the desired adhesion in other portions of the laminate where the same improved adhesion may not be necessary.

The extrusion coating method described in Levendusky et al. does not involve a bulk layer of paper or paperboard joined to the aluminum layer, wherein the bulk layer exhibits through holes, openings or slits covered by a membrane comprising the first layer as recited in Claim 1. Indeed, as the disclosure in Levendusky et al. is not at all concerned with the production of a packaging laminate similar to that at issue here, there would be no reason to implement a method similar to that recited in Claim 1 involving a bulk layer of paper or paperboard joined exhibiting through holes, openings or slits. Levendusky et al. also does not describe plasma treatment performed locally at the regions of through holes, openings or slits. Claim 1 is thus patentable over the disclosure in Levendusky et al.

The Official Action also sets forth an obviousness rejection of Claims 1-10 based on the disclosure in International Application Publication No. WO 01/85565 to Toft in view of either the disclosure in Levendusky et al. or the disclosure in European Application Publication No. 1 099 544 to Kaschel et al.

The bottom half of page four of the present application describes the Toft disclosure, noting its discussion of flame treatment or corona treatment before lamination. However, the disclosure in Toft is not concerned with providing differentiated or tailored adhesion through the application of so-called local treatment in which the plasma treatment is performed locally at regions of the through holes, openings or slits, with the plasma treatment being performed intermittently.

Kaschel et al. does not make up for such deficiency. This document discloses surface-treatment of a polymer substrate film before metallizing or vapor depositing a coating. The reference does not disclose surface treating an aluminum foil, let alone aluminum foil forming, together with a paper or paperboard layer and another layer, packaging material. Nor does Kaschel et al. disclose the plasma treatment now set forth in Claim 1 involving local treatment at regions of the through holes, openings or slits, with the plasma treatment being performed intermittently. Further, for the reasons discussed above, the Levendusky et al. disclosure is similarly deficient. Claim 1 is thus patentable over the combined disclosures in Toft and Levendusky et al. or Kaschel et al.

Claims 11-14 depend from Claim 1 and are thus allowable at least by virtue of their dependence upon Claim 1. With respect to these claims, the Official Action sets forth an anticipatory rejection based on the Toft disclosure. However, the Official Action does not set forth an anticipatory rejection of Claim 1, the claim from which Claims 11-14 depend, and so the basis for the anticipatory rejection of Claims 11-14 is not understood. As noted, these claims are allowable at least because they depend from an allowable independent claim.

New independent Claim 16 recites a packing laminate comprising a first layer of aluminum and a second layer of a material different from aluminum, wherein the first layer has a first side joined to a bulk layer of paper or paperboard and an opposite flame-treated and plasma-treated second side joined to the second layer. The bulk layer exhibits through holes, openings or slits covered by a membrane comprising the first layer of aluminum, and the plasma-treated second side comprises spaced apart locally plasma-treated regions at the through holes, openings or slits.

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This new independent claim defines structural features and characteristics of the packaging laminate. For example, the claim refers to the opposite flame-treated and plasma-treated second side surface that is joined to the second layer. This reference to the flame-treated and plasma-treated second side surface is a recitation of structural attributes or aspects of the laminate, not method characteristics. Indeed, a packaging laminate having an aluminum layer possessing a flame-treated and plasma-treated surface exhibits different structural aspects and attributes than an aluminum layer possessing a surface that is not both flame-treated and plasma-treated. This is clear from the description in the application. Similarly, a packaging laminate having an aluminum layer possessing a flame-treated and plasma-treated surface, wherein the plasma treated surface is plasma treated at spaced regions of the through holes, opening or slits in the bulk layer exhibits different structural aspects and attributes than an aluminum layer possessing a surface that is plasma treated over its entirety. As the cited references do not disclose a packaging laminate having these structural features, the new independent claim is also allowable.

The dependent claims are allowable at least by virtue of their dependence upon an allowable independent claim.

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Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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I hereby certify that this correspondence is being submitted by facsimile transmission to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, to the following facsimile number.

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